the experiment was performed several times with similar results. Curiously, FK1012B appears to augment mitogen activity slightly at the highest concentration (i.e. 5 μg/ml); however, a control experiment shows that FK1012B is not stimulatory by itself. See Fig. 6A.

In the claims:

For the convenience of the Examiner, all claims being examined, whether or not amended, are presented below.

Please cancel, without prejudice, claims 56, 62 and 67.

14. (**Thrice Amended**) The composition of claim 22, wherein each of said constructs is provided in a vector including a selectable marker permitting transfection of the construct into host cells and selection of transfectants containing the construct.

18. (**Twice Amended**) A mammalian cell which contains and expresses the nucleic acid composition of claim 22, 23, or 49.

22. (**Twice Amended**) A nucleic acid composition comprising at least two genetic constructs, each encoding a chimeric protein,

(a) a first construct encoding a first chimeric protein comprising at least one ligand-binding domain and a transcriptional activation domain which is heterologous thereto,

(b) a second construct encoding a second chimeric protein comprising at least one ligand-binding domain which may be the same or different from a ligand binding domain of the first chimeric protein, and a DNA binding domain which is heterologous thereto,

wherein the first and second of said chimeric proteins together (i) bind to a ligand to form a ligand cross-linked protein complex, and (ii) in a ligand dependent manner, activate transcription of a gene having a transcriptional regulatory element to which the DNA binding domain binds.

23. (**Twice Amended**) A nucleic acid composition comprising at least two genetic constructs, each encoding a chimeric protein,

(a) a first construct encoding a first chimeric protein comprising at least one ligand-binding domain and a signal initiation domain which is heterologous thereto; and,

(b) a second construct encoding a second chimeric protein comprising at least one ligand-binding domain which may be the same or different from the ligand binding domain of the first chimeric protein, and an intra-cellular localization domain which is heterologous thereto,

wherein the first and second of said chimeric proteins together (i) bind to a ligand to form a ligand cross-linked protein complex, and (ii) in a ligand dependent manner, activate an intra-cellular signaling pathway.

49. (**Amended**) A nucleic acid composition comprising at least two genetic constructs, each encoding a chimeric protein,

(a) a first construct encoding a first chimeric protein comprising at least one ligand-binding domain, a signal initiation domain which is heterologous thereto, and a cytoplasmic domain of a cell surface receptor; and,

(b) a second construct encoding a second chimeric protein comprising at least one ligand-binding domain which may be the same or different from the ligand binding domain of the first chimeric protein, a signal initiation domain which is heterologus thereto and which may be the same or different from the signal initiation domain of the first chimeric protein, and a cytoplasmic domain of a cell surface receptor which may be the same or different from the cytoplasmic domain of a cell surface receptor of the first chimeric protein,

wherein the first and second of said chimeric proteins together (i) bind to a ligand to form a ligand cross-linked protein complex, and (ii) in a ligand dependent manner, activate a cellular signaling pathway.

50. (**Reiterated**) The composition of claim 23, wherein the intra-cellular localization domain is a nuclear localization domain.

51. (**Reiterated**) The composition of claim 23, wherein the intra-cellular localization domain is a cytoplasmic localization domain.

52. (**Reiterated**) The composition of claim 23, wherein the intra-cellular localization domain comprises a secretory leader sequence, a membrane retention domain, a nuclear localization domain, or a vesicle targeting domain.

53. (**Reiterated**) The composition of claim 52, wherein the membrane retention domain comprises a plasma membrane targeting sequence for attachment of a myristoyl moiety or a prenyl moiety.

54. (**Reiterated**) The composition of claim 49 in which the ligand-binding domain of at least one of the chimeric proteins is an FKBP domain.

55. (**Amended**) The composition of claim 49 in which the ligand-binding domain of at least one of the chimeric proteins is an FKBP domain, wherein said FKBP domain comprises FKBP12 or a variant thereof, and wherein said variant comprises substitution of one or more of Tyr26, Phe36, Asp37, Tyr82 and Phe99 with another amino acid residue.

57. (**Amended**) The composition of claim 49 in which the ligand binding domain of at least one of the chimeric proteins specifically binds to FK506, FK520, rapamycin, or a derivative of FK506, FK520, or rapamycin.

58. (**Reiterated**) The composition of claim 49 in which the cytoplasmic domain of a cell surface receptor is selected from the group consisting of a tyrosine kinase receptor, a cytokine receptor and a growth factor receptor.

59. (**Reiterated**) The composition of claim 49 in which the cytoplasmic domain of a cell surface receptor is selected from the group consisting of a Fas receptor and a TNF receptor.

60. (**Reiterated**) The composition of claim 22 in which the ligand-binding domain of at least one of the chimeric proteins is an FKBP domain.

61. (**Amended**) The composition of claim 22 in which the ligand-binding domain of at least one of the chimeric proteins is an FKBP domain, wherein said FKBP domain comprises FKBP12 or a variant thereof, and wherein said variant comprises substitution of one or more of Tyr26, Phe36, Asp37, Tyr82 and Phe99 with another amino acid residue.

63. (**Amended**) The composition of claim 22 in which the ligand binding domain of at least one of the chimeric proteins specifically binds to FK506, FK520, rapamycin, or a derivative of FK506, FK520, or rapamycin.

64. (**Reiterated**) A eukaryotic cell containing and capable of expressing at least one nucleic acid construct of claim 22, 23, or 49.

65. (**Reiterated**) The composition of claim 23 in which the ligand binding domain of at least one of the chimeric proteins is an FKBP domain.

66. (**Amended**) The composition of claim 23 in which the ligand-binding domain of at least one of the chimeric proteins is an FKBP domain, wherein said FKBP domain comprises FKBP12 or a variant thereof, and wherein said variant comprises substitution of one or more of Tyr26, Phe36, Asp37, Tyr82 and Phe99 with another amino acid residue.

68. (**Amended**) The composition of claim 23 in which the ligand binding domain of at least one of the chimeric proteins specifically binds to FK506, FK520, rapamycin, or a derivative of FK506, FK520, or rapamycin.

69. (**Reiterated**) The composition of claim 23 or 49 in which the activation of a cellular signaling pathway regulates, in a ligand dependent manner, at least one of cell proliferation, differentiation, or death.

The amended claims are re-stated below to reflect changes with respect to the last filing.